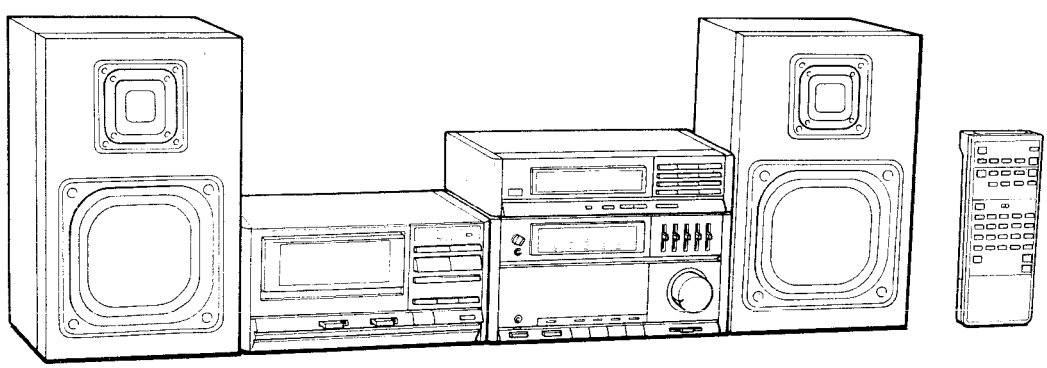
SONY

Mini Hi-fi Component System

MHC-2000

Operating Instructions page 2

Before operating the unit, please read this manual thoroughly and retain it for future reference.



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English

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Warning

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Overview

The MHC-2000 is a stereo component system with remote control functions.
When the Sony CDP-S107 compact disc player, equipped with the system control connector, is connected to this stereo component system, the operation of the CD player, including power-on and power-off, can also be remotely controlled.

Tuner section

- You can tune in stations by:
  — selecting station frequencies manually.
  — selecting one of the memorized stations.
- You can scan preset stations to hear what is being broadcast on them.

Amplifier section

- Power output is 30 W + 30 W (at 6 ohms).
- You can listen to program sources such as a turntable system, or CD player, as well as the tuner and the cassette deck of this system, by connecting them to the amplifier.

Cassette deck section

- Auto-reverse deck plays back and records both sides of the cassette continuously.

Precautions

On operating voltage

The stereo component system operates on 220 V AC, 50 Hz.

On safety

- The stereo system is not disconnected from the AC power source as long as it is connected to the wall outlet, even if the stereo system itself has been turned off.
- Unplug the stereo system from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by the plug. Never pull the cord itself.
- Should any solid object or liquid fall into the component, unplug the stereo system and have the component checked by qualified personnel before operating it any further.

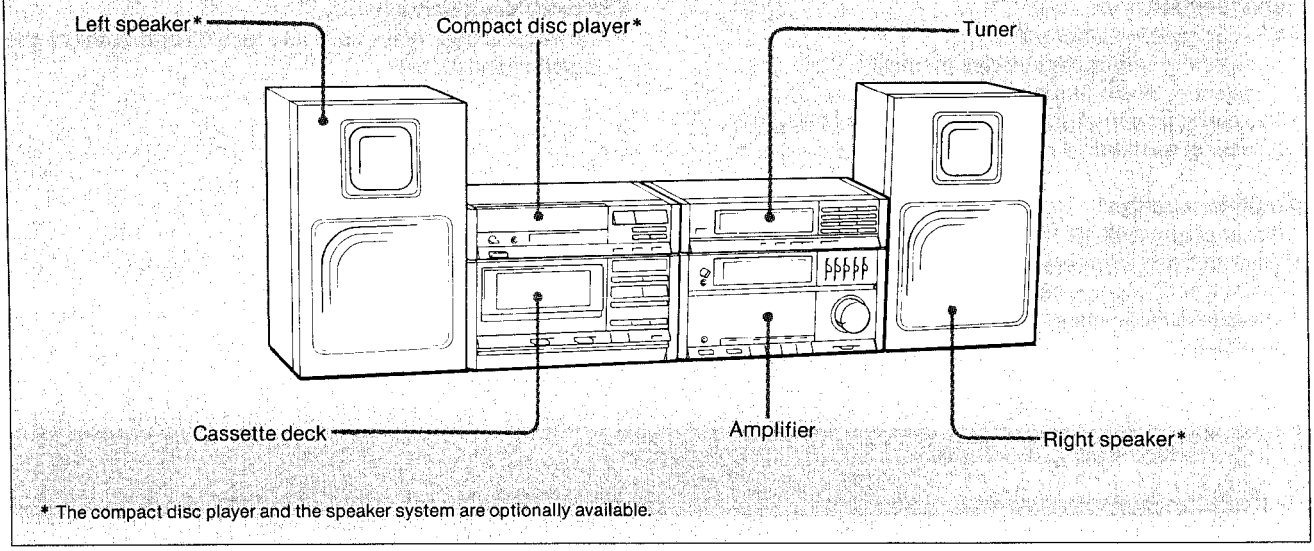
On installation

- Do not place anything on top of the unit. The ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.
- Avoid installing or leaving the unit in a location:
  — near heat sources such as radiators, airducts or heaters
  — subject to direct sunlight
  — exposed to rain or moisture
  — where it is liable to come into contact with dust or dirt
  — that is unventilated, such as a bookcase

If you have any question or problem concerning your stereo system, please consult your nearest Sony dealer.

Installation

Setting up

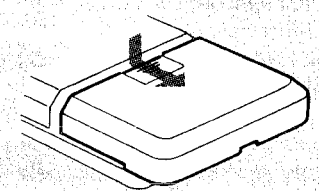


* The compact disc player and the speaker system are optionally available.

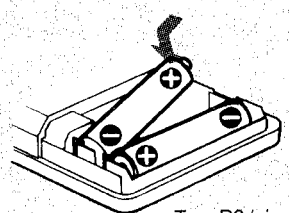
Installing Batteries

Install the batteries in the supplied remote commander for remote control operation.

1



2



Two R6 (size AA) batteries

Battery life

About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries.
When the batteries are exhausted, the remote commander cannot operate the stereo system. Replace both batteries with new ones.

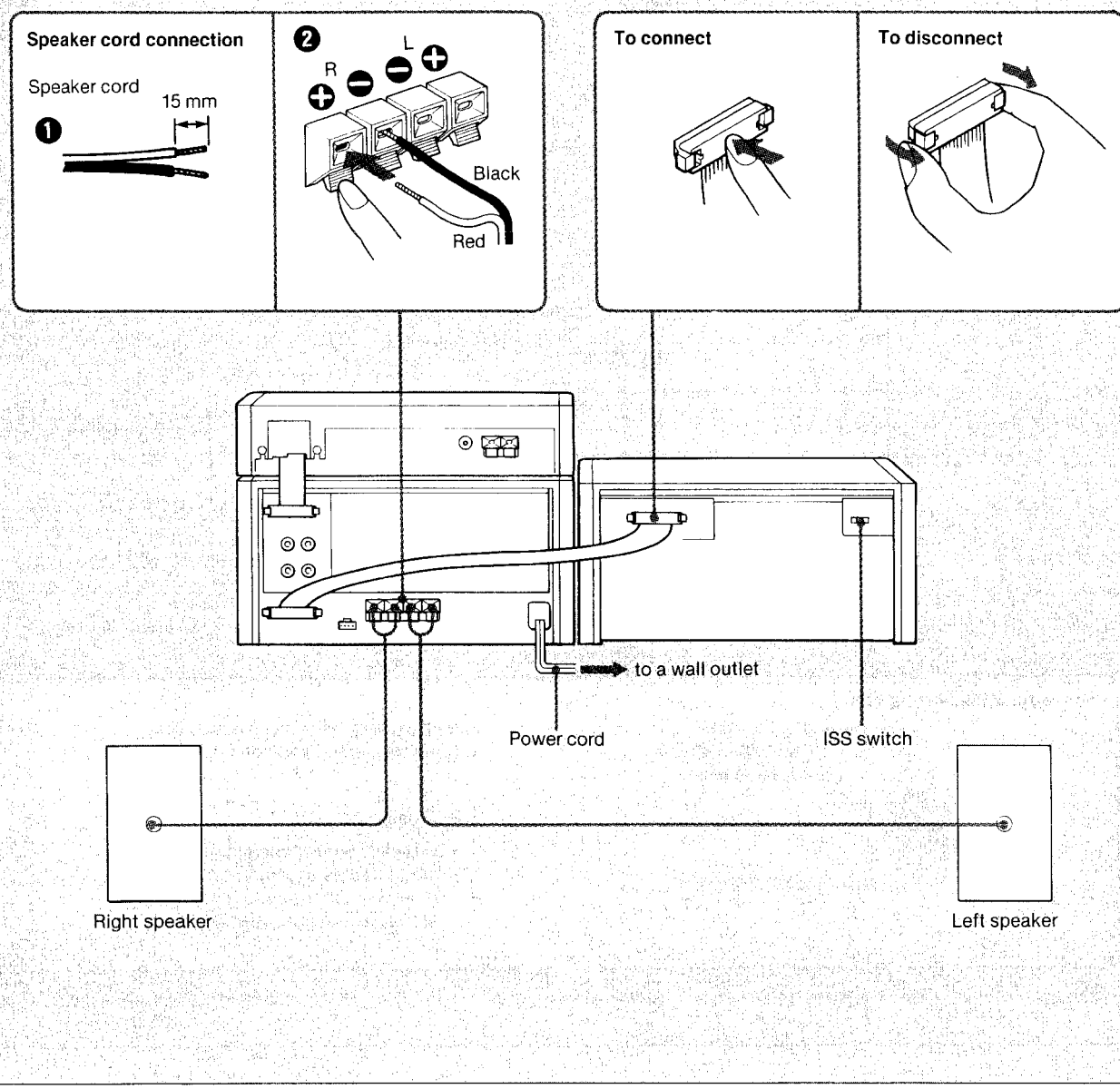
To avoid battery leakage

When the commander is not to be used for a long period of time, remove the batteries to avoid damage caused by battery leakage and corrosion.

Connections

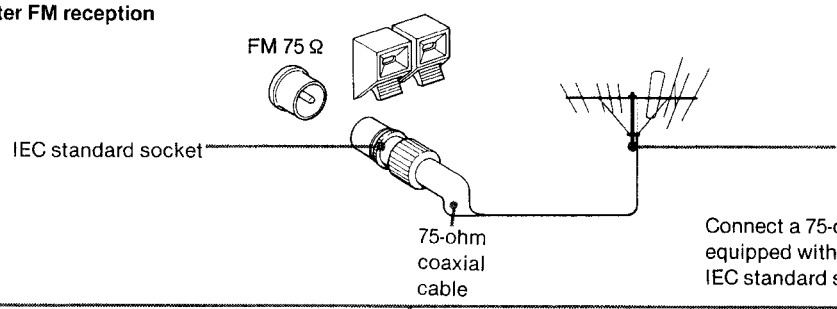
Basic Connection

Connect the power cord last of all, first making sure that the POWER switch is turned off.

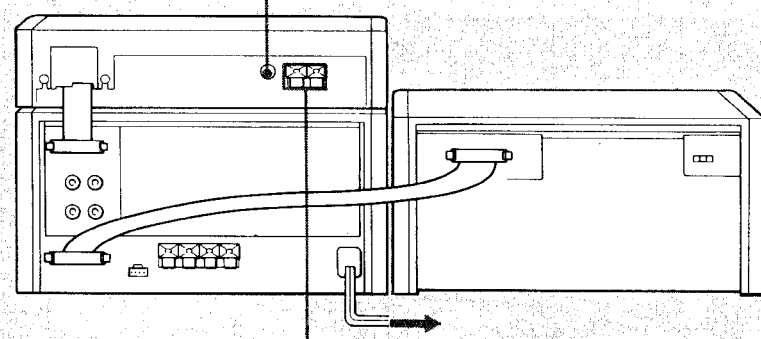


For Better Broadcasting Reception

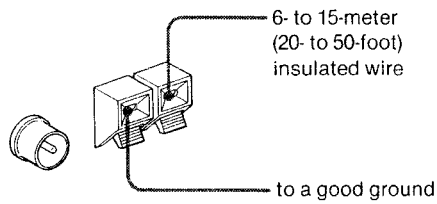
For better FM reception



Connect a 75-ohm coaxial cable equipped with a commercially available IEC standard socket connector.



For better MW/LW reception

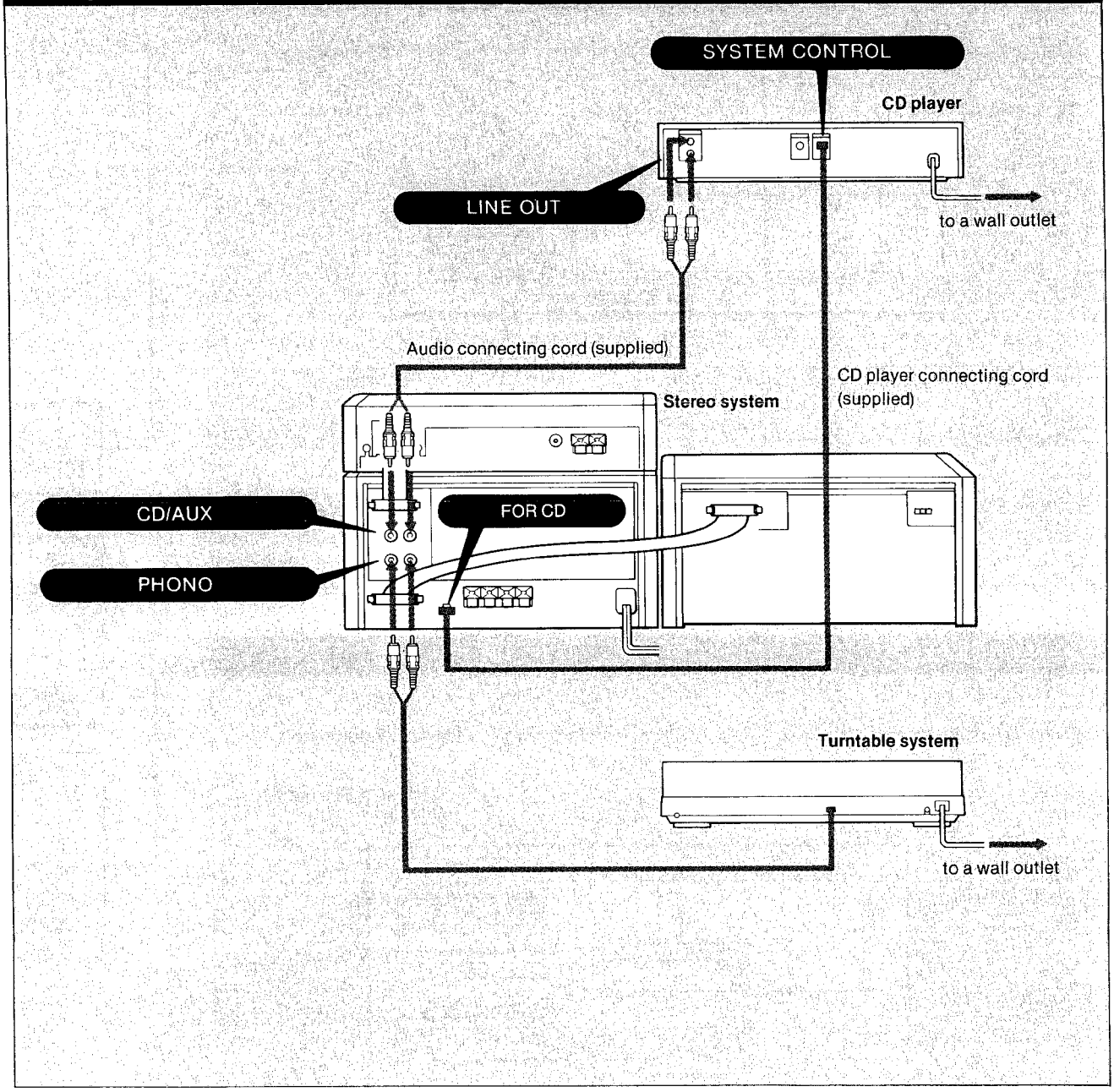


Extend the wire out of doors if possible, keeping the greater portion horizontal.

Warning

- Be sure to ground against lightning when an external antenna is used.
- Never connect the ground wire to a gas pipe as it is dangerous.

Adding Other Components to Your System

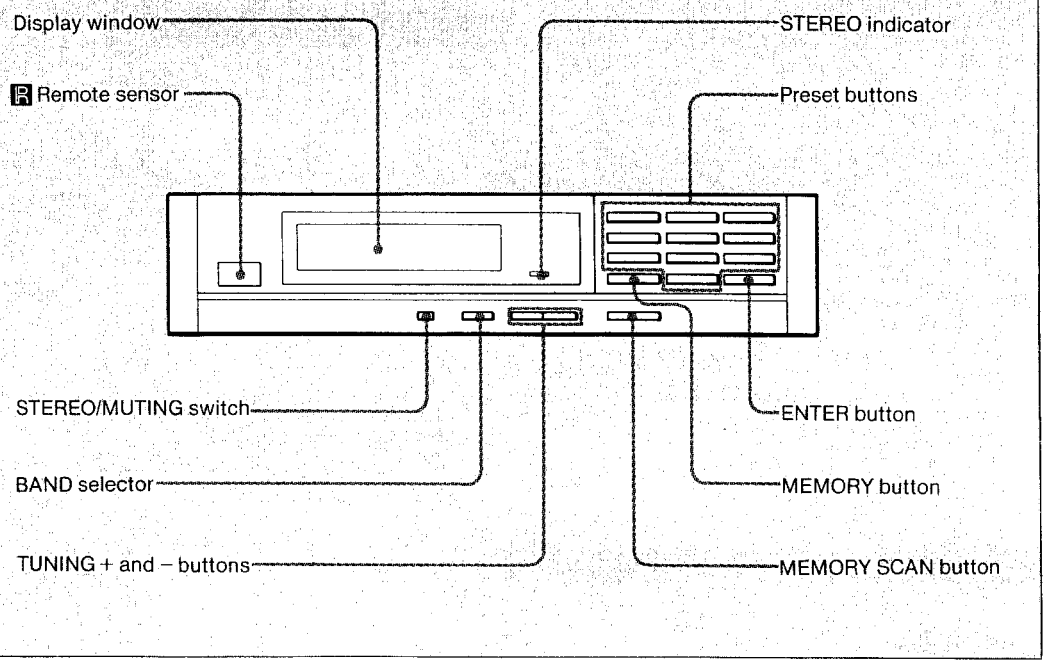


For program source connections
The red jacks of the stereo system are for right-channel (R) connections and the white jacks for the left-channel (L).

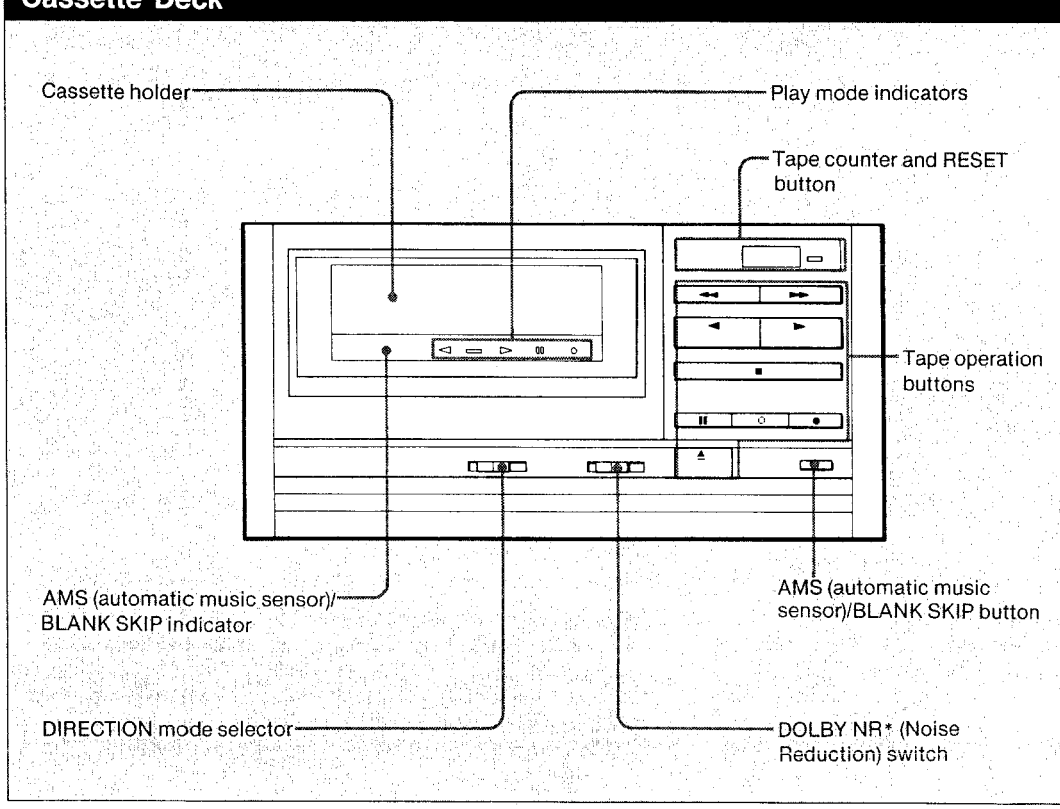
Controlling CD player's power
When the CDP-S107 compact disc player is connected as illustrated above, and the POWER switch of the CD player is set to the ON position, its power is turned on and off by the POWER switch of the amplifier.
When the tuner is activated, the CD player is turned off automatically.

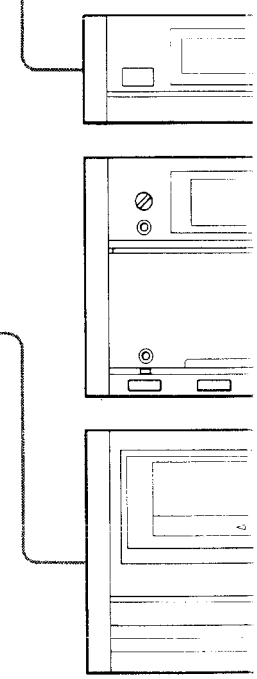
Parts Identification

Tuner

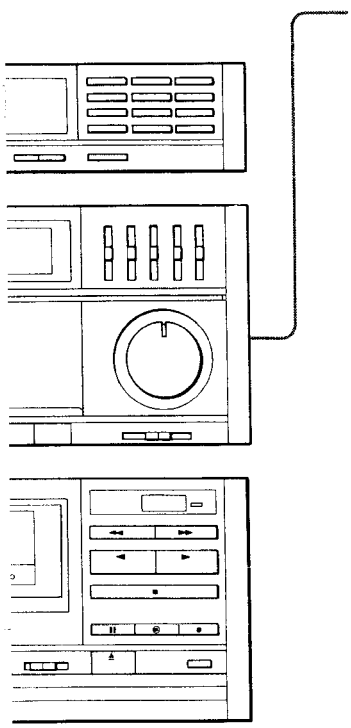


Cassette Deck

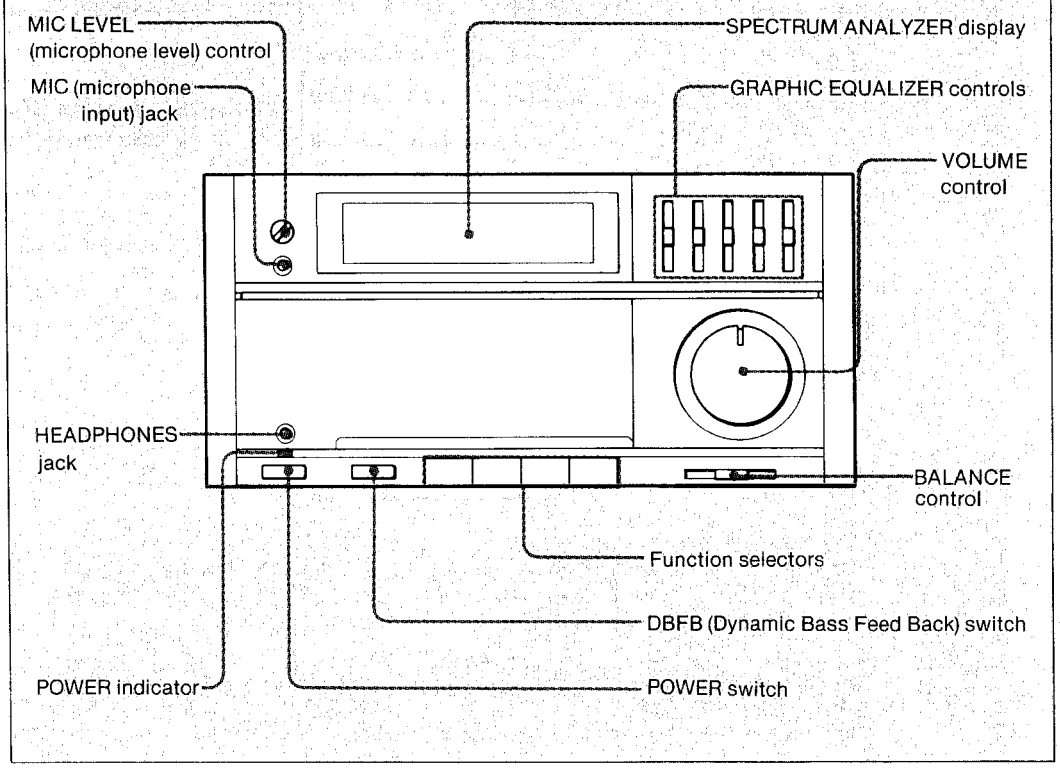

Cassette holder
Play mode indicators
Tape counter and RESET button
Tape operation buttons
AMS (automatic music sensor)/ BLANK SKIP indicator
AMS (automatic music sensor)/BLANK SKIP button
DIRECTION mode selector
DOLBY NR* (Noise Reduction) switch



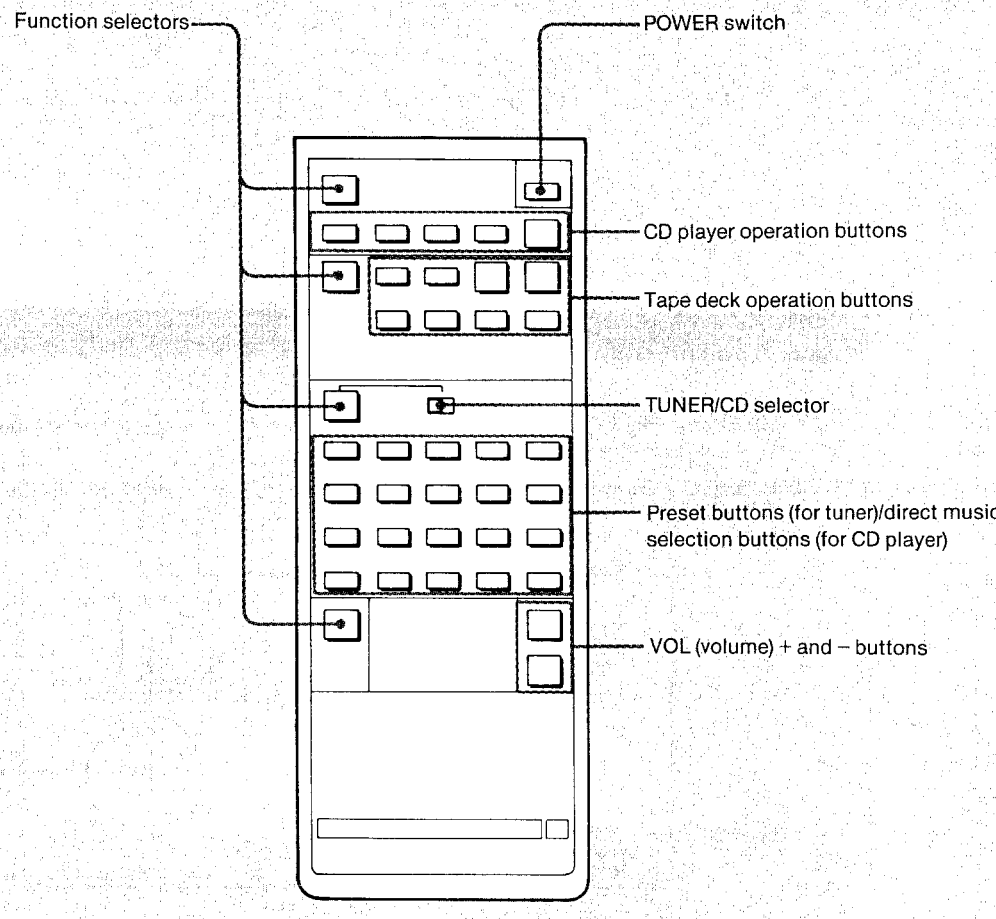
* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.



Amplifier

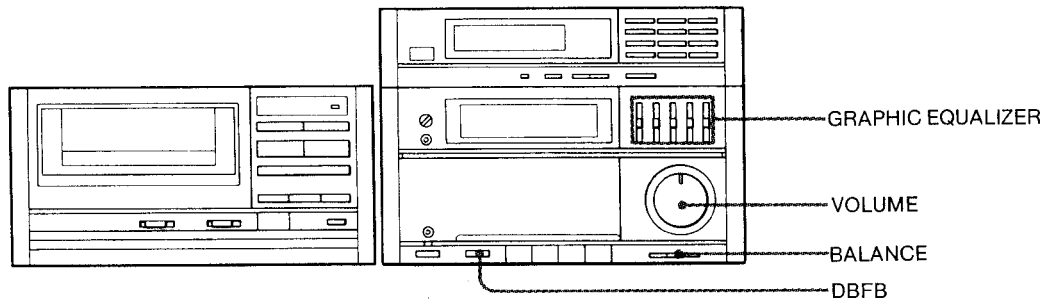

MIC LEVEL (microphone level) control
MIC (microphone input) jack
SPECTRUM ANALYZER display
GRAPHIC EQUALIZER controls
VOLUME control
HEADPHONES jack
BALANCE control
Function selectors
DBFB (Dynamic Bass Feed Back) switch
POWER indicator
POWER switch

Remote Commander


Function selectors
POWER switch
CD player operation buttons
Tape deck operation buttons
TUNER/CD selector
Preset buttons (for tuner)/direct music selection buttons (for CD player)
VOL (volume) + and – buttons

Audio Adjustment

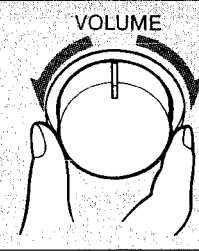
For getting the optimum sound, you can adjust volume and sound quality using the functions below.



Volume Adjustment

To adjust volume

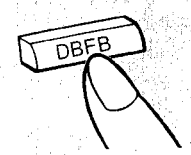
Turn VOLUME clockwise for increasing volume, and turn counterclockwise for decreasing it.



Sound Quality Adjustment

To reinforce the bass

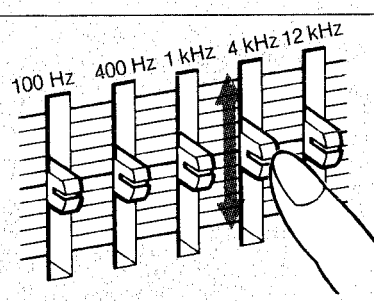
Depress DBFB (Dynamic Bass Feed Back). The lower the speaker output level is, the more the bass sound is emphasized.



To adjust response of the specific frequency range

Slide GRAPHIC EQUALIZER control of the desired frequency. Slide upward to increase response, and slide downward to decrease it.

To listen without equalization, set all controls to the center position (0).



Balance Adjustment

To change the relative strength of the right and left speaker output

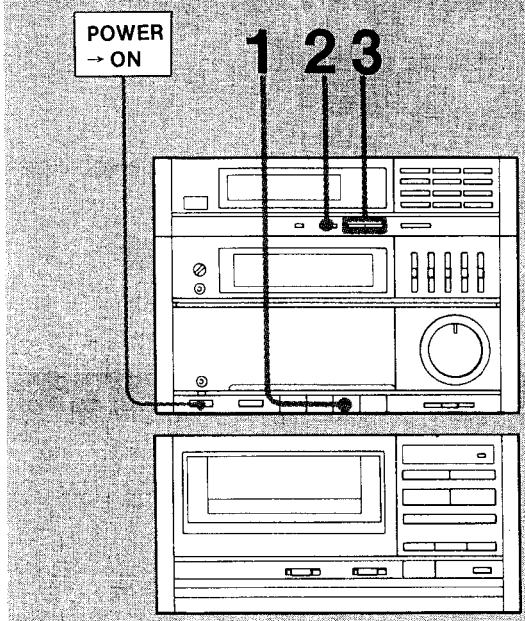
Adjust BALANCE to correct stereo imaging, when the speaker position is not symmetrical.

Frequency coverage of each equalizer control

100 Hz: Use to boost or cut bass.
400 Hz: Use to adjust the power, spaciousness and warmth of the sound.
1 kHz : Use to provide more presence for vocals.
4 kHz : Use to adjust the brightness of the sound.
12 kHz: Use to highlight the delicate quality of instrumental sound.

Radio Broadcast Reception

Tuning Manually

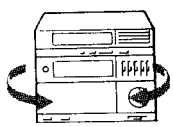


1 **Press TUNER.**
It is not necessary when you first listen to radio programs after turning on the unit.

2 **Select the desired band** with BAND.

3 **Find the desired station** with the TUNING + and – buttons.

Getting better MW reception



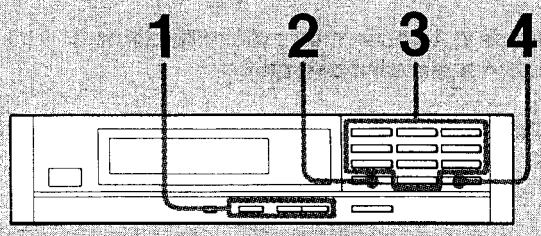
Eliminating FM interstation noise
When manually tuning, keep STEREO/MUTING engaged to eliminate interstation noise.

Receiving a noisy FM station or a very weak station
Disengage STEREO/MUTING for better reception. The sound will be monaural instead.

Display and indicator
TUNED: Appears when a station of sufficient signal strength is tuned in.
STEREO: Lights up when an FM stereo program of sufficient signal strength is received.
MUTING: Appears when STEREO/MUTING is engaged.

Tuning in Memorized Stations

Once you store up to 20 desired stations in memory, you can tune them in by a simple operation.



Entering station frequencies into memory

1 **Tune in the desired station.**

2 **Press MEMORY.**
"MEMORY" will light up on the display window.

3 **Select a preset station number** 1 to 20 with the preset buttons.

4 **Press ENTER** while "MEMORY" is still lit.
The station received is now stored in memory.

Repeat the above procedure for each station to be preset.

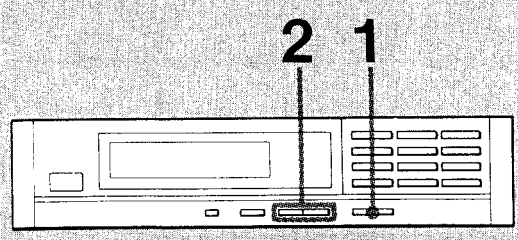
Tuning in a preset station

1 **Select the desired station preset number** with the preset buttons.

2 **Press ENTER** while the selected number is displayed.

Scanning Memorized Stations

You can tune in the memorized stations successively to hear what programs are being broadcast.



1 **Press MEMORY SCAN.**
A preset station number flashes on the display window.

2 **Press TUNING + or –** while the preset number indication on the display blinks.
Preset stations are tuned in successively.

To stop scanning, press MEMORY SCAN again as soon as the desired station is received.

When "MEMORY" disappeared during presetting?!
Press MEMORY again to set station frequencies.

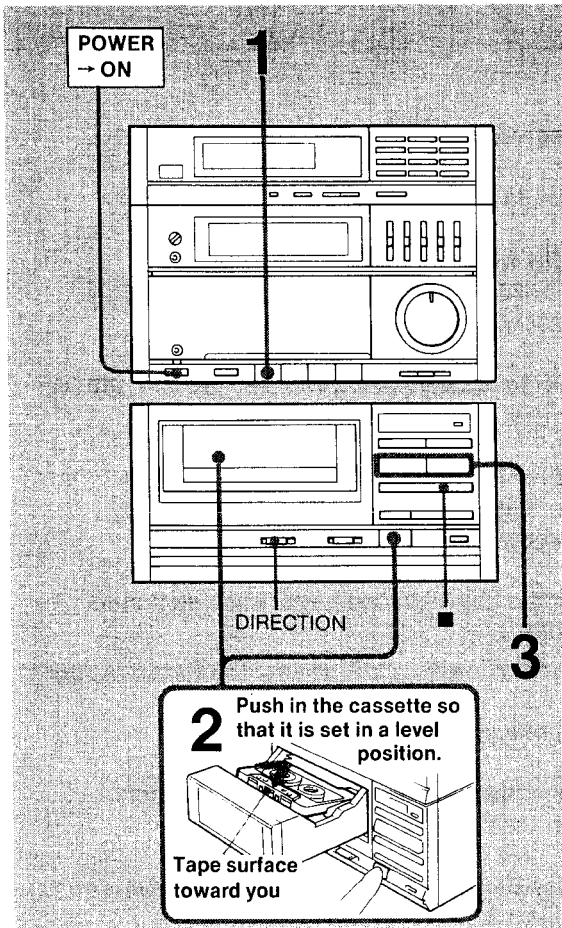
When you enter an incorrect preset station number
Press MEMORY and enter the correct preset number.

Can a station preset number be cleared?
No, but a new station can be stored over the previously memorized one.

Memory of the preset stations includes:
— Band setting
— STEREO/MUTING switch setting

Which stations are skipped during memory scanning?
The memory scan will skip those which have a very weak signal.

Tape Playback



When inserting a cassette in the cassette holder, make sure that the cassette is correctly set in its place, otherwise playback will not begin. (The illumination lamp in the holder will not light up.)

1 **Press TAPE.**

2 **Press ⏏ to open the cassette holder and insert a recorded cassette.**

3 **Start playback.**
From the front side: Press ▶.
From the reverse side: Press ◀.

To stop playback, press ■.
To pause, press ❚❚.
To resume playback, press ❚❚ again.
To fast-wind the tape, press ◀◀ or ▶▶.

How to select the DIRECTION position

	Selector position
To playback one side of the cassette	→
To playback both sides of the casette 5 times repeatedly	⇄

How to use the DOLBY NR switch

Set the DOLBY NR switch to the same position as was used when the cassette was recorded.

Side of the cassette being played back

Indicator	Side of the cassette being played back
☼ ▷	Front side
◁ ☼	Reverse side

Is it necessary to select tape type being used?
No. Because an automatic tape type detection system is used. This system adjusts the equalization and bias current setting to the optimum according to the type of cassette detected, TYPE I, II or IV.

When you start repeat play from the reverse side
If you set DIRECTION to ⇄ and start playback from the reverse side, both sides of the cassette will be played back 4 times after the reverse side is played back.

Playing Automatically after Fast Winding—Auto Play

You can automatically start playback from the beginning of the tape following fast winding.

1 Turn off AMS/BLANK SKIP.

2 Start rewinding as follows:
From the beginning of the front side:
Press ▶ while keeping ◀◀ pressed.
From the beginning of the reverse side:
Press ◀ while keeping ▶▶ pressed.

Locating the Beginning of a Selection during Playback—Automatic Music Sensor (AMS)

The AMS detects the blank space between selections and locates the beginning of a selection during playback. To assure correct operation of the AMS, there must be a blank of 4 seconds or longer between selections.

1 Press AMS/BLANK SKIP (or ○ on the remote commander) to illuminate its indicator.

2 Check the indicator and press ▶▶ or ◀◀ referring to the following table.

Indicator	Side of the cassette being played	Desired selection	
		Next selection	Selection being played
▷	Front side	▶▶	◀◀
◁	Reverse side	◀◀	▶▶

Skipping a Blank

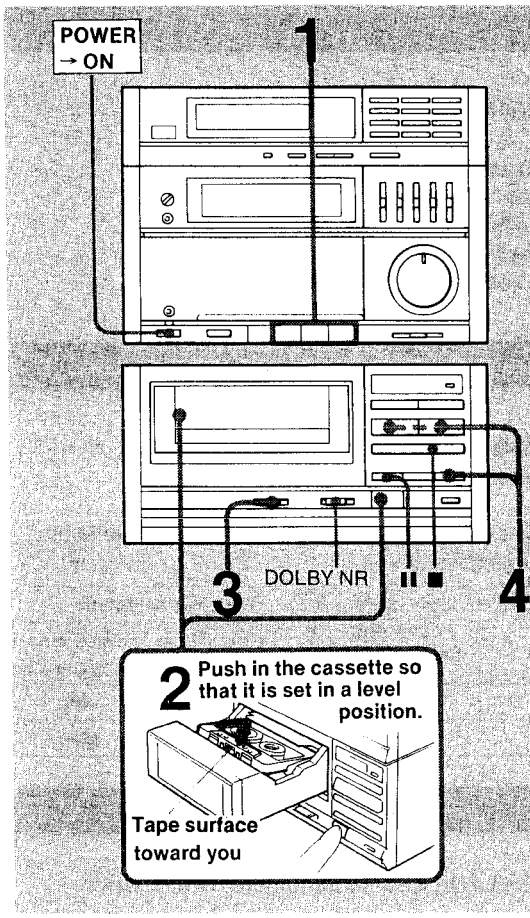
The deck automatically goes into the fast winding mode where there is a blank of about 10 seconds or more. Playback begins when a new selection begins.

Press AMS/BLANK SKIP to illuminate its indicator.

Notes on the AMS
The AMS function works by searching out the blank spaces over 4 seconds long on a tape:
- The AMS may not search for the desired selection if:
  — There is noise in the space between selections.
  — If the ◀◀/▶▶ button is pressed immediately after/before the desired selection.
  — The space is less than 4 seconds long.
  To assure correct AMS operation, insert a 4-second or longer blank space using the record muting function.
- The AMS will treat the following as blanks.
  — a long pause in the music
  — a passage of low frequencies or very low volume
  — gradual increase or decrease of volume

120-minute cassettes are not recommended except when necessary for long continuous recording and playback
120-minute cassettes use extremely thin tape which tangles easily when the tape transport is stopped and started frequently.

Tape Recording



1 Select the program source you want to record: Press CD, TUNER, or PHONO.

2 Press ⏏ and insert a cassette for recording.

3 Select the side(s) to be recorded:

	DIRECTION setting
To record on one side	⇀
To record on both sides (from side A to B)	⇄

4 Start recording.
To record starting from the front side:
Keeping ● pressed, press ▶.

To record on the reverse side only:
Keeping ● pressed, press ◀.
Recording begins.

To stop recording, press ■.

How to start recording more precisely

1 Press ❚❚.

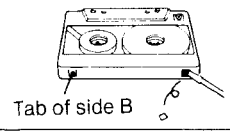
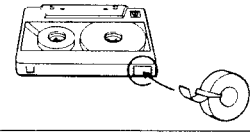
2 While keeping ● pressed, press ▶ or ◀.

3 Press ❚❚ again at the desired point.
Recording will begin.

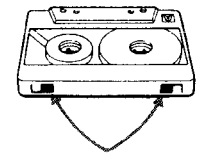
Reducing tape hiss noise with the DOLBY NR switch

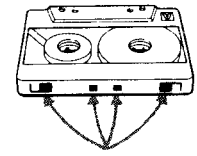
To engage Dolby NR system, set DOLBY NR to ON. To disengage it, set DOLBY NR to OFF.

To prevent accidental erasure

To protect side A recording	To reuse a cassette
Break out the tab of side A. Side A  Tab of side B	Cover each slot with plastic tape. 

When using TYPE II (CrO_2) or TYPE IV (metal) cassettes
Be careful not to cover the detector slots which are necessary for automatic tape type detection.


CrO_2 tape detector slots


Metal tape detector slots

Inserting a Blank Space

Using the O button during recording, you can insert a blank space in a tape to help you locate a selection (AMS function, see page 15). In addition, this function enables you to eliminate unwanted input by replacing it with a blank space.

1 While recording, press O.

If you want the blank to be four seconds long, press and release immediately.

After four seconds, the unit goes into the pause mode.

If you want it to be longer, keep pressing for as long as you want.

When you release O, the unit goes into the pause mode.

2 Press II again to resume recording.

Dolby NR system

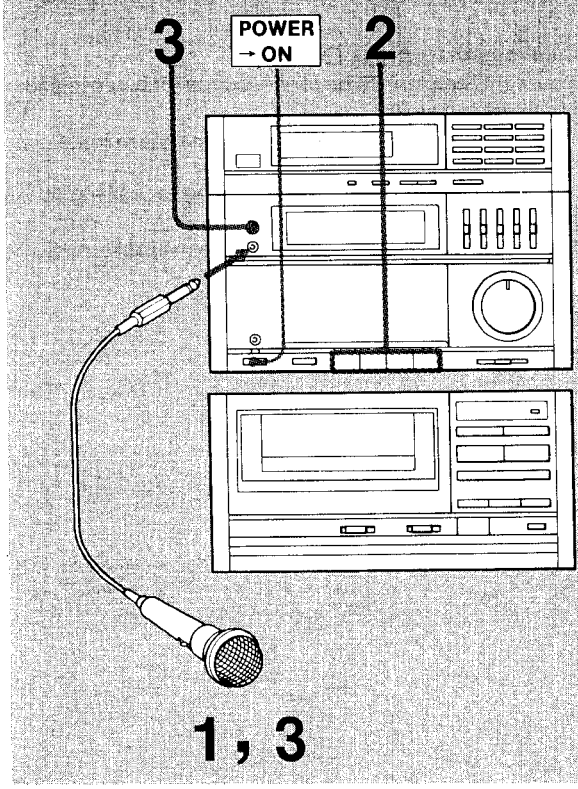
Dolby NR (noise reduction) system reduces tape hiss noise in low-level high-frequency signals. The system boosts these signals in recording and lowers them in playback.

If whistling noise is heard during recording AM program:

Slide the ISS (Interference Suppress Switch) at the rear to position 1,2 or 3 depending on which best reduces the noise.

Using a Microphone

Mixing Microphone Sound with a Source Program



This function allows you to add live singing or narration to a background program.

1 **Connect a microphone to MIC.**

2 **Select the program source to be mixed** with TAPE, CD, TUNER or PHONO, **and play it.**

3 **Speak or sing into the microphone, and adjust the microphone level** with MIC LEVEL.

Recording the Mixed Sound

You can record the microphone sound mixed with record, compact disc, or radio broadcasting.

1 Play the program source.

2 Insert a blank cassette into the deck and start recording.

3 Speak or sing into the microphone.

To record the microphone sound mixed with a taped program

Another cassette deck for playback is required.

1 Connect the cassette deck to the CD/AUX inputs.

2 Press CD, and start playback on the connected cassette deck.

3 Start recording on this system.

Recording from a microphone only

1 Turn off any equipment connected to CD/AUX at the rear.
2 Press CD.
3 Start recording.
4 Speak or sing into the microphone.

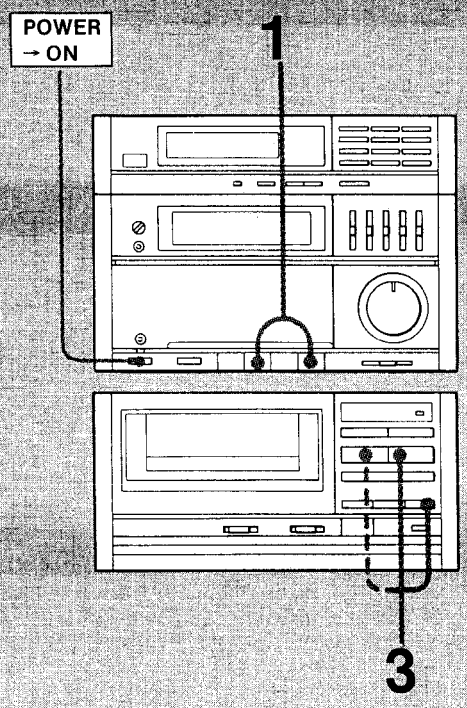
Important

When you have finished mixing, be sure to disconnect the microphone from the MIC jack, and turn the MIC LEVEL control fully to MIN.

To stop howling (acoustic feedback)

Placing the microphone too close to the speakers may cause howling. Change the direction of the microphone and/or lower the volume to stop this noise.

Listening to/Recording from Other Sources



1 **Select the desired program source.**

Program source	Function selector to be pressed
Compact disc	CD
Phono disc	PHONO

2 **Play the selected program source.**

3 **To record the source,** press ▶ or ◀ while keeping ● pressed.

For detailed operation of each unit, refer to its instruction manual.

Tips on recording from a compact disc
When recording from a compact disc, first start the deck, then start playing the compact disc. This is because the CD player can quickly locate and start playing the selected part. If the compact disc is started first, the beginning of the selection may not be recorded.

Maintenance

Cleaning the Head

Clean the tape head every two weeks to enjoy optimum hi-fi stereo sound. Use a commercially available cleaning cassette.

Cleaning the Cabinet

Clean the cabinet, panel and controls with a soft cloth slightly moistened with a mild detergent solution.

Important

Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

Cassette Care

- Avoid touching the tape surface of a cassette, as any dirt or dust will contaminate the heads.
- Keep cassettes away from equipment with magnets, such as speakers and amplifiers, as erasure or distortion on the recorded tape could occur.
- Do not expose cassettes to direct sunlight, extremely high or low temperatures or moisture.

Troubleshooting Guide

Radio Program Reception

Symptom	Cause (and remedy)
Preset stations cannot be tuned in.	• You have not preset desired stations correctly. (See page 13.) • You have not pressed ENTER after selecting the station preset number. (See page 13.)
The TUNED indicator or STEREO indicator blinks.	• The signal strength is too weak. Connect an external antenna. (See page 6.)
Severe hum or noise.	• The signal strength is too weak. Connect an external antenna. (See page 6.) • Ground wire is not connected.

Cassette Deck Operation

Symptom	Cause (and remedy)
The function buttons do not operate.	• The cassette holder is not completely closed. • There is no cassette in the cassette holder. • The cassette has been incorrectly inserted into the cassette holder (See page 14.)
The ● button cannot be operated.	• No cassette in the cassette holder. • The tab is removed from the cassette. (See page 16.)
The ● or ▶ button cannot be activated.	• The tape is wound completely.
Tape does not move when the ▶ or ◀ button is activated.	• The ❚❚ button is activated.
The record muting does not take place.	• The ○ button on the remote commander is pressed in the stop mode. Use the ○ button on the remote commander only during recording.
Malfunctioning recording or playback, or decrease in sound level.	• Dirty heads. Clean the heads. (See page 20.)
Unbalanced tone in higher frequencies	• Incorrect setting of the DOLBY NR switch. (See pages 14 and 16.)
The desired selection cannot be located even if you activate the AMS.	• There is noise in the space between selections. • The space is less than 4 seconds long. Press ○ to insert a longer blank space (See page 17.) • The ◀◀ or ▶▶ button is pressed immediately before or after the beginning of the selection.
Playback or fast-winding may begin in the middle of the selection when AMS or blank skip is activated.	• The following will be treated as blanks: —a long pause in the music —a passage of low frequencies or very low volume —gradual increase or decrease of volume

Troubleshooting Guide

Remote Control Operation

Symptom	Cause (and remedy)
Remote control operation cannot be made.	• Batteries in the remote commander are exhausted. Replace the batteries (See page 4.) • There is obstruction between the remote commander and the remote sensor on the tuner. • The remote commander is being used beyond its operating range. • Loose connection of the flat cords. (See page 5.)

General

Symptom	Cause (and remedy)
No audio	• The VOLUME control is set to its minimum. (See page 11.)
No audio from one channel or unbalanced left and right volume	• Improper setting of the BALANCE control. (See page 11.) • The speaker cord is disconnected or its connection is incorrect. (See page 5.)
Reversed left and right sound	• Incorrect connection of the speaker cords. (See page 5.)
Lack of bass sound or apparently imprecise physical location of musical instruments	• Incorrect connection of the speaker + and – cords. (See page 5.)
No microphone sound during microphone mixing	• The MIC LEVEL control is set to MIN. Turn it toward MAX. (See page 18.)
Severe hum or noise	• A TV or VTR is too close to the stereo system.

Specifications

ST-707R TUNER

System FM stereo, FM/AM superheterodyne tuner
Quartz-locked PLL digital synthesizer system

FM tuner section

Tuning range 87.5 to 108 MHz
Antenna terminals
75 ohms unbalanced
Intermediate frequency
10.7 MHz
Usable sensitivity 2.3 μV (S/N = 30 dB/75 ohms)

MW/LW tuner section

		MW	LW
Tuning range		531 – 1,602kHz (except Italy) 522 – 1,611kHz (for Italy)	153 – 281 kHz (except Italy) 144 – 288 kHz (for Italy)
Antenna		Built-in ferrite bar antenna External antenna terminal	
Usable sensitivity	Built-in ferrite bar antenna	250 μV/m (999 kHz)	500 μV/m (230 kHz)
	External antenna	100 μV (999 kHz)	150 μV (230 kHz)
Signal-to-noise ratio		52 dB (50 mV/m)	
Harmonic distortion		0.3% (50 mV/m, 400 Hz)	

General

Dimensions Approx. 245 × 55 × 240 mm (w/h/d)
(9 3/4 × 2 1/4 × 9 1/2 inches)
incl. projecting parts and controls
Weight Approx. 1.0 kg (2 lb 4 oz) net

TC-R707 CASSETTE DECK

Recording system 4-track 2-channel stereo
Frequency response
DOLBY NR OFF (DIN)
With TYPE IV cassette (Sony METAL-ES)
40 to 15,000 Hz (±3 dB)
With TYPE II cassette (Sony UX-S)
40 to 14,000 Hz (±3 dB)
With TYPE I cassette (Sony HF-X)
40 to 13,000 Hz (±3 dB)
Wow and flutter 0,1% WRMS (NAB)
±0.2% (DIN)

General

Dimensions Approx. 245 × 120 × 270 mm (w/h/d)
(9 3/4 × 4 3/4 × 10 3/4 inches)
incl. projecting parts and controls
Weight Approx. 2.5 kg (5 lb 8 oz)

TA-707 AMPLIFIER

Continuous RMS output
30 W + 30 W
(6 ohms, at 1 kHz, 5% THD)

Inputs

Input jacks	Jack type	Sensitivity	Impedance
PHONO	Phono	2.5 mV	50 kohms
CD/AUX	Phono	450 mV	50 kohms
MIC	Stereo mini	1 mV	600 ohms

Outputs

HEADPHONES (stereo phone jack)	Accepts headphones of 8 ohms or more
SPEAKER	Accepts speakers of 6 to 16 ohms

General

Power requirements
220 V AC, 50 Hz
Power consumption
85 W
Dimensions Approx. 245 × 120 × 285 mm (w/h/d)
(9 3/4 × 4 3/4 × 11 1/4 inches)
incl. projecting parts and controls
Weight Approx. 4.5 kg (10 lb) net

ACCESSORIES SUPPLIED

RM-809 remote commander (1)
Sony SUM-3 (NS) batteries (2)
Flat cord (1)
CD player connecting cord (1)

Design and specifications subject to change without notice.

Note

This appliance conforms with EEC Directives 76/889 and 82/499 regarding interference suppression.

OPTIONAL ACCESSORIES

CDP-S107 compact disc player
PS-Q3A turntable system